REMARKS/ARGUMENT

The claims have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with either the enablement requirement or the written description requirement. These rejections are respectfully traversed.

It is respectfully submitted that no valid enablement rejection has been made. As pointed out in MPEP 2164.04 (emphasis added):

> In order to make a rejection, the examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention. *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993) (examiner must provide a reasonable explanation as to why the scope of protection provided by a claim is not adequately enabled by the disclosure). A specification disclosure which contains a teaching of the manner and process of making and using an invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, unless there is a reason to doubt the objective truth of the statements contained therein which must be relied on for enabling support. Assuming that sufficient reason for such doubt exists, a rejection for failure to teach how to make and/or use will be proper on that basis. *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). As stated by the court, "it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure." 439 F.2d at 224, 169 USPQ at 370.

> According to *In re Bowen*, 492 F.2d 859, 862-63, 181 USPQ 48, 51 (CCPA 1974), the minimal requirement is for the examiner to give reasons for the uncertainty of the enablement. This standard is applicable even when there is no evidence in the record of operability without undue experimentation beyond the disclosed embodiments.

The enablement rejection does not comply with the minimal requirement set forth in the quoted section of the MPEP. It simply states the conclusion that there is no enablement and observes that the claims are broad enough to read on a complete absence of organic solvent coupled with the observation there is no exemplification of that species. As the MPEP points out, that is insufficient. The specification is presumptively correct and the Patent Office has not explained "why it doubts the truth or accuracy of any statement in the supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement.... This standard is applicable even when there is no evidence in the record of operability without undue experimentation beyond the disclosed embodiments."

Beyond the foregoing, it is basic and elementary chemistry that a volatile material can be removed from a composition by heating above the boiling point. A recognition of that basic principle can even be found in the Antonelli patent at column 7, lines 19-21 (although, as will discussed below, inaccurately applied in that instance). Accordingly, one skilled in the art would know, without being told, that a volatile organic solvent could be removed by heating. It is also a basic principle that a specification preferably omits that which is well know to those skilled in the art. *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524-1534 (Fed Cir. 1987); *Hybritech, Inc. v. Monoclonal Antibodies, Inc.* 802 F.2d 1367, 1384 (Fed. Cir. 1986).

"Essentially absent" is indicated in the application to mean less than about 1%. If the Office Action is trying to draw some type of distinction between "less than about 1%" and the situation where there is no organic solvent at all, then that distinction is not understood. The expression "less than about 1%" includes 0%.

The assertion that there is a failure to comply with a written description requirement is clearly untenable. "While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure....When an explicit limitation in a claim 'is not present in the written description whose benefit is sought it must be shown that a person of ordinary skill would have understood, at the time the patent application was filed, that the description requires that limitation.' *Hyatt v. Boone*, 146 F.3d 1348, 1353, 47 USPQ2d 1128, 1131 (Fed. Cir. 1998)." MPEP 2163. The language in the claim is that the composition is "essentially free of organic solvent". The specification states on the bottom of page 5 of the application that the organic solvent should be "essentially absent". The person of ordinary skill would have understood that these two expressions are describing exactly the same thing. Accordingly, the written description requirement has been satisfied.

The claims were rejected under 35 U.S.C. 103 over Antonelli in view of Harris and/or Uchidoi. This rejection is respectfully traversed.

Antonelli discloses a cathodic electrocoating composition, which, by definition, means that the composition is acidic so that the polymer coating is deposited elecrophoretically at the cathode at the bath. See, e.g., column 4, line 66 to column 5, line 6. In contrast, the claimed method is an anionic electrocoating method in which the composition is basic so that the polymer coating is deposited elecrophoretically on the

anode at the bath. This fact is apparent from the fact that the composition in claim 1 has a pH of at least 7.8, i.e., the composition is basic, while Antonelli states time and time again that his composition is cathodic. While it is true that the reference states that the composition has a pH of about "5.5-8", it is respectfully submitted that one skilled in the art would recognize that the digit "8" was an obvious typographical error and would read it as "7". As observed in the case of *In re Yale*, 168 U.S.P.Q. 46 (CCPA 1970),

> Since [the skilled person would recognize when reading the reference] an obvious error, it cannot be said that one of ordinary skill in the art would do anything more than mentally disregard [the error] as a misprint or mentally substitute [a correction] in its place. Certainly, he would not be led by the typographic error to use the erroneous [material] even if as a chemist of ordinary skill in the art he would know how to prepare the [material]. He simply would not get so far in the thought process as to determine if he knew how to make [the disclosed entity], as it would have long since been discarded by him as an obvious typographical error.

The person of skill in the art here would note the continuous reference to a cathodic composition, that all of the examples use pHs ranging up to 6.09 and that the invention concerns the use of a neutralizing agent to overcome the basic characteristics of the amine functionality of the principal resin, and immediately recognize that the "8" must be a typographical error and would read it as "7" so as to be consistent with the rest of the disclosure.

Even if the typographical error was not ignored, the particle size of the binder varies from a 10 to 100nm and the conductivity is between 800 and 1300 microsiemens in the present invention. When these characteristics are simultaneously present, there is a special benefit on the coating quality with regard to both its uniformity and excellent corrosion protection. There is nothing in Antonelli (or the other references for that matter) which teach or suggest or make it predictable that such a result was possible.

The Office Action observes that in Table I, Antonelli discloses that the particle size of the binder emulsion was between 91 and 169nm and the conductivity of the composition ranged from 1738 to 2540 microsiemens. If this observation is being advanced to suggest the particle size and conductivity have a predictable relationship, then it would be a revision of the reference for description purposes which impermissibly crosses the line at which it becomes a revision of the reference's disclosure. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.* 220 USPQ 97, 103 (Fed. Cir. 1997). Table I shows that a binder with a particle size of 91nm had conductivity of 1973, a particle size of 133nm gave a conductivity of 1738, a particle size of 135nm gave a conductivity of 1890, and a particle size of 169 provided a conductivity of 2540. No relationship between particle size and conductivity is apparent. The Harris and Uchidoi patents have been cited to show binders having a range of conductivity overlapping that of the present claims. But why would the skilled person select a subrange of particle size from Antonelli to combine with a subrange of conductivity from the other references when the references fail to provide a reason to do so and no reason is advanced in the Office Action? The only apparent reason is the claims are being used as a template, and that, of course, is improper.

Both of these references relate to cathodic electrocoating compositions solvents. There is nothing in either of these references to teach or suggest an anionic electrocoating composition having the claimed particle size and conductivity would give rise to an improvement in the anti-corrosion properties of the compound formed.

The Office Action advances the proposition that the bath in Antonelli is solvent free based on text which refers to evaporation of "all" of the organic solvent present which allows it to be "reasonably assumed that the organic solvent is not present". That proposition is not tenable. One skilled in the art would immediately recognize that the

evaporation of "all" of the organic solvent under the circumstances described is a physical impossibility. Antonelli says that evaporation was effected at a temperature of about 50°C for several hours but heating solvent to a temperature below its boiling point is not going to remove much, if any, solvent. The organic solvent content in Antonelli's bath prior to evaporation is approximately:

	Boiling Point (°C)	Wt.% in final electrophoretic bath
Ethanol	78-79	0.83%
Methanol	64.5	0.44 %
Methyl Isobutyl Ketone	115.8	10.5%
Butoxy Ethanol	169-172.5	0.43%
Total		12%

Evaporation at 50° C obviously can not effectively remove solvent with high boiling points, most particularly the last two solvents with boiling points considerably higher than water (boiling point 100° C) which is used as the major solvent. Even if one assumed that the 50°C heating was sufficient to remove the ethanol and methanol, the other two solvents still account for about 11% by weight of the electrophoretic bath.

Uchidoi teaches that the organic solvent is needed to improve the smoothness of the coating layer. Based on the data given at examples 1 and 2, the organic solvent contents of each resin was about 20%, and diluting with water might cut the organic content down to about half, or about 10%. The use of vacuum would not remove the ketone because the water and ketone have similar vapor pressure at room temperature and would be removed at the same time.

Harris does indicate that the coating composition may include an organic coalescing solvent in an amount between about 0 and 15% by weight, the vast majority of

which range falls outside the instant claims. Since Antonelli and Uchidoi teach use of about 10% organic solvent, there is no apparent reason or motivation to employ the very bottom of Harris' range.

The references, alone or in combination do not suggest that if the amount of organic solvent is restricted to 1% or less at the same time that the particle size does not exceed 100 nm, the conductivity does not exceed 1500 microsiemens, and the pH is at least 7.8, an anodic electrocoating method would result in a composition having the corrosion protecting properties of the present invention.

In light of all of the foregoing, it is respectfully submitted that this rejection should be withdrawn.

Claim 7 was rejected under 35 U.S.C. 103 over Antonelli modified by Harris and/or Uchidoi in further view of Kerr.

The Kerr reference does not overcome the basic deficiencies in the combination of Antonelli, Harris and Uchidoi and therefore cannot render Claim 7 obvious.

In addition, Harris uses 50-500 volts to deposit a coating at about 300°C over 15-30 minutes and Kerr describes a low voltage deposition from 1 to several hundred volts for a film with a curing temperature between 300 and 750°C. In contrast, the present application describes the deposition of a corrosion protecting film at room temperature employing a driving voltage of about 10 to 30 volts over 15-60 seconds and baking at a temperature of about 100-180°C for 20-30 minutes. Nothing in this combination of references teaches of suggests or allows one to predict that there could be a great lowering in temperature, large shortening of time and drastic reduction in voltage when the water

based emulsion has ionic polymeric particles between 10 and 100nm, a pH of 7.8 to 9 and a conductivity of 800-1500 microsiemens/cm and is essentially free of organic solvent. Accordingly, this rejection should also be withdrawn.

In light of all of the foregoing, it is respectfully submitted that this case is in condition to be allowed.

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Respectfully submitted,

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